



The AE Techron **7796HC** is a DC plus audio bandwidth AC signal source that can be used to simulate ripple noise, drop outs, surges and ground shift noise as required by a variety of standards for DC powered electronics in the aviation and automotive industries.



7796HC
**High Current AC/DC Power Amplifier/
 Battery + Ripple Simulator**

For testing to these Specifications:

AVIATION

MIL STD 704

AUTOMOTIVE STANDARDS

ISO 7637-2

ISO 11452-8 and -10

ISO 16750-2

SAE J1113-2

AUTOMOTIVE OEM

Chrysler CS-11809 (2009)

Chrysler CS-11979

Chrysler DC-11224 Rev.A

DaimlerChrysler DC-10614

DaimlerChrysler DC-10615

DaimlerChrysler DC-11224

EMC-CS-2010JLR V1.1 (2011-01)

Fiat 9.90110

Ford EMC-CS-2009.1

Ford ES-XW7T-1A278-AC

GLloyd VI-7-2

GMW 3097 (2006)

GMW 3172

MAN 3285

MBN 10284-2

Nissan 28400 NDS 02

PSA B21 7110 Rev.C, Ad. 2010-05

Renault 36.00.808/--G

Renault 36.00.808/--H

Renault 36.00.808/--J

Renault 36.00.808/--K

Renault 36.00.808/--L

Tata TST/TS/WI/257

Volvo STD 515-0003

VW TL 825 66

Features

- Stable when driving highly capacitive loads.
- Up to 85A continuous at 13.8 VDC.
- Up to 200A inrush current capability.
- 150+ kHz small signal bandwidth.
- ±80 VDC capable.
- Fast 41 V/μS slew rate.
- Four quadrant operation (source and sink).
- 3 mOhm output impedance.

7796HC DC Specifications

VDC	OUTPUT (Amperes)		
	100 mS Surge	10 Minute, 100% Duty Cycle	1 Hour, 100% Duty Cycle
48	92	80	60
35	138	70	52
28		90	70
13.8	150	90	85

7796HC AC Specifications

Ohms	OUTPUT (RMS)		
	100 mS Surge	10 Minute, 100% Duty Cycle	1 Hour, 100% Duty Cycle
1.0	39V 39A	39V 39A	39V 39A
0.5	37V 74A	37V 74A	35V 71A
0.25	28V 110A	27V 107A	25V 98A

**Performance
(Controlled Voltage Mode)**

Note: Testing performed at 208VAC.
Since these amplifiers have an unregulated power supply, low line conditions may slightly affect the maximum voltage potential.

Frequency Response:
DC – 30 kHz, +0.1, –0.5 dB

Slew Rate:
41 V/ μ Sec

Phase Response:
 ± 8.3 degrees (10 Hz – 10 kHz)

Unit to Unit Phase Error:
 ± 0.1 degrees at 60Hz

Output Offset:
Less than 5 mV, field adjustable to less than 1 mV

Output Offset Current:
Less than 10 milliamperes DC

DC Drift:
 ± 1.5 mV

Residual Noise:
Unfiltered: Less than 75 μ V
Filtered (400 Hz – 30 kHz):
Less than 55 μ V

THD:
DC - 30 kHz less than 0.1%

Input Characteristics

Balanced with Ground:
Three terminal barrier block connector
20k ohm differential

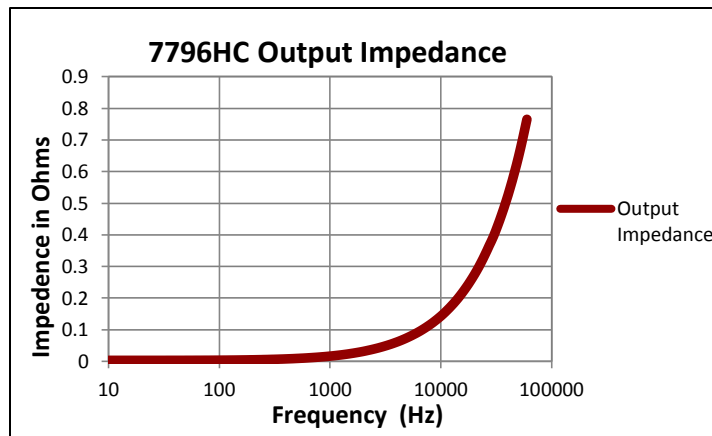
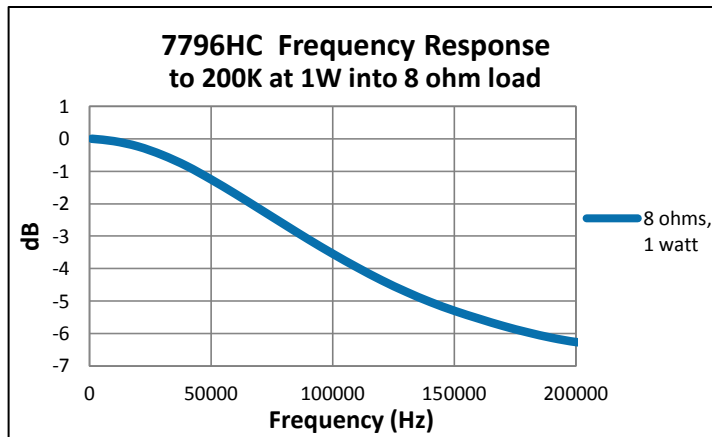
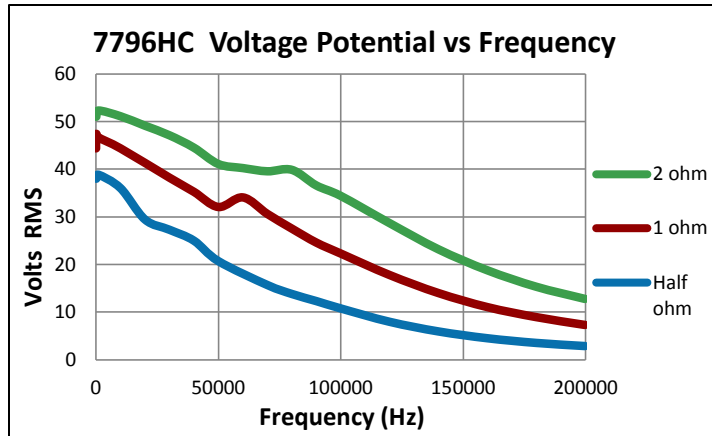
Unbalanced:
BNC connector, 10k ohm single ended

Gain:
Voltage Mode: 20 volts/volt
Current Mode: 20 amperes/volt

Gain Linearity (over input signal, from 0.2 V to 5 V):
0.1%

Max Input Voltage:
 ± 10 V balanced or unbalanced

Input Impedance:
20 kOhm differential



Common Mode Rejection Range:
 ± 11 VDC maximum

Common Mode Rejection Ratio:
70 dB

Display, Control, Status

Front Panel LED Displays indicate:
Ready, Standby and Fault conditions in the output stage

LCD Display:

LCD display can be configured for up to four simultaneous displays reporting one, two or all four of the following: Voltage Peak, Voltage RMS, Current Peak, and Current RMS. The display provides values measured directly from the amplifier output. If a fault condition occurs, the display will provide the type of fault condition and give suggested corrective action.

Soft Touch Switches for:

Enable (Run), Stop (Standby), Reset

Back Panel

Power Connection:

NEMA-style locking receptacle; matching AC connector also included

Signal Output:

4-position terminal barrier block (OUTPUT/Common/SAMPLED COMMON/CHASSIS GROUND); resistor installed between SAMPLED COMMON AND CHASSIS GROUND is a 2.7-ohm, 2W, 5%, metal-oxide resistor

Signal Input:

User-selectable Unbalanced BNC or Balanced Barrier Strip

Interlock Connector:

25-pin D-sub connector used for amplifier control and status applications; also used in multi-amplifier applications

Communication Capabilities

Current Monitor: $\pm 1V / 20A \pm 1\%$

Reporting:

System Fault, OverTemp, Over Voltage, Overload

Control:

Force to Standby; Reset after a fault

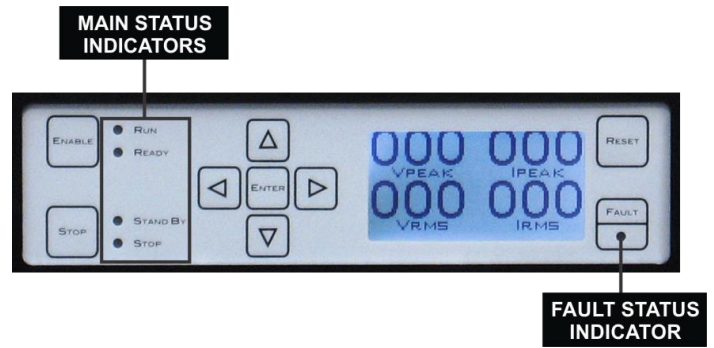
Protection

Over/Under Voltage:

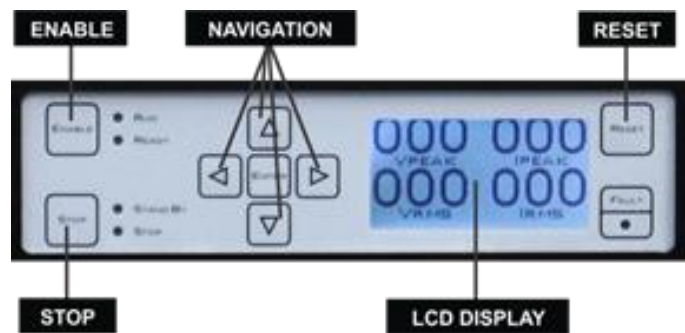
$\pm 10\%$ from specified supply voltage amplifier is forced to Standby

Over Current:

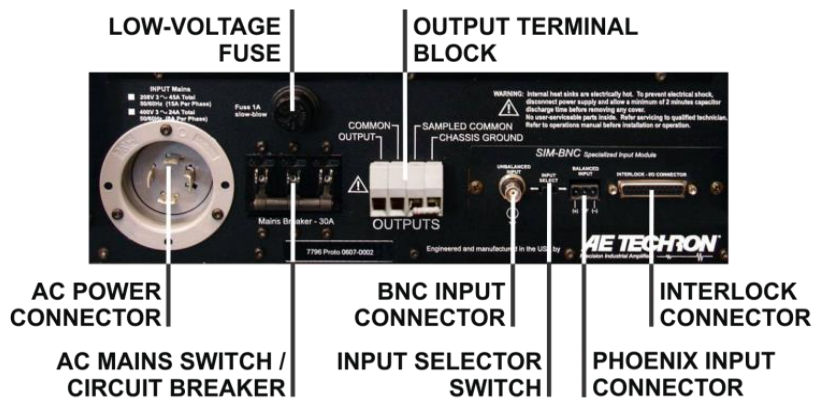
Breaker protection on both main power and low voltage supplies



7796HC Front Panel Indicators



7796HC Front Panel Display and Controls



7796HC Back Panel

Over Temperature:

Separate Output transistor, heat sink, and transformer temperature monitoring and protection

Physical Characteristics

Chassis:

All aluminum construction designed for stand-alone or rack-mounted operation with black chassis; the amplifier occupies five EIA 19-inch-wide rack units

Weight:

153 lbs. (69 kg)

AC Power:

Three-phase, 208 VAC $\pm 10\%$, 47-60 Hz, 30A AC service.

NOTE: 400 VAC version not available.

Operating Temperature:

10°C to 50°C (50°F to 122°F),

Maximum Output Power de-rated above 30°C (86°F)

Humidity:

70% or less, non-condensing

Cooling:

Internal fans forced air, 500 cfm

Dimensions:

19 in. x 22.8 in. x 12.25 in. (48.3 cm x 57.9 cm x 31.1 cm)

AE Techron Sales Representative